Report to the
Academy for Educational Development and the
US Agency for International Development

ISO 14000 Environmental Management Systems Training Program in Moscow

Conducted October 27-31,1997

Program design and execution by

Futurepast:™
Inc.

Under the direction of
John C. Shideler, PhD

and the

Global Environment & Technology Foundation

Report Date: November 14, 1997

(Reprinted with revisions on March 3, 1998)

Report to the
Academy for Educational Development and the
US Agency for International Development

ISO 14000 Environmental Management Systems Training Program in Moscow

Conducted October 27-31,1997

Program design and execution by

Under the direction of
John C. Shideler, PhD
Futurepast:™ Inc.
and the
Global Environment & Technology Foundation

Report Date: November 14, 1997

(Reprinted with revisions on March 3, 1998)

Contents

1.

Introduction

The US Agency for International Development (USAID), through its Moscow Office of Environment and Health, has supported efforts to improve environmental conditions in Russia. It has previously sponsored such US-based training programs as "Pollution Prevention," "Environmental Business and Economics,"[1] "Environmental Audits," and "Environmental Management for Decision-Makers."[2] A major goal of these training programs and other projects in Russia is to help Russian industry improve its environmental performance. Such outcomes will not only benefit the environment and public health, but they will also contribute to economic development by making Russian industry more efficient and therefore competitive.

The May 1997 Environmental Management for Russian Decision Makers program introduced ISO 14000–based environmental management systems. Participants in this program saw that this topic had significant potential importance to Russia, and recommended that USAID focus specifically on ISO 14000 when conducting further training for Russian environmental and business managers.

Providing in-depth instruction in the ISO 14000 series of standards supports a major USAID strategic objective for Russia, which is to increase capacity to deal with environmental pollution that poses a threat to public health. By encouraging the voluntary adoption of ISO 14000–based environmental management systems, USAID expects that Russian enterprises may reduce or prevent pollution and improve their environmental performance. This outcome will lead to enhanced profitability for Russian industry and better environmental health for the Russian population.

Training that increases the capability of Russian experts in environmental management systems supports this strategic objective. For this reason USAID requested a seminar that would help lead to industry adoption of ISO 14000–based environmental management systems. The training seminar provided a necessary first step that increased awareness, identified known implementation issues, established a core group of interested and affected parties, and provided an opportunity to develop a path forward for ISO 14000 implementation in Russia.

Futurepast: Inc., with its partner the Global Environment & Technology Foundation (GETF), designed a program to achieve the following objectives:

- Inform participants about the ISO 14,000 standards and how companies in the United States and around the world are using them to prevent pollution while achieving greater operational efficiencies;

- Show participants how a company would identify and take the steps needed to transform its environmental management system into one that conforms to ISO 14000 standards;

[1] Two- and three-week versions of this program were conducted by Futurepast: Inc. in December 1994 and June 1996.

[2] This program, for high-level Russian decision makers, was conducted by Futurepast: Inc.

- Identify through facilitated discussions regulatory issues or concerns on the part of Russian Federation government officials related to the voluntary adoption by industry of ISO 14000 standards, and assist the parties to develop possible paths toward their resolution;

- Assist participants in forming action plans to implement ISO 14000 standards in their enterprises, to integrate ISO 14000 approaches in industry/government relations, and to develop a Russian cadre of trained ISO 14000 consultants;

- Identify US-based and international resources to support the continued integration of ISO 14000 based environmental management systems in Russian enterprise management, Russian government regulatory strategies, and industrial ecology training and educational institutions.

The following sections of this report provide a synopsis of the content of the seminar, a description and analysis of the issues that participants identified, and recommendations for further USAID assistance in the areas of policy development support, training and information dissemination, and implementation support for ISO 14000–based environmental management systems.

2.

The Seminar

A. Overview

The Futurepast/GETF ISO 14000 Seminar took place in Moscow in facilities of the Russian Federation Civil Service Academy. The program began on Monday afternoon and concluded on Friday afternoon of the week of 27-31 October 1997. The program was attended by 23 participants sponsored by the US Agency for International Development and four additional attendees (listed in Appendix A). Two faculty co-presented the seminar: John Shideler, PhD, president of Futurepast, and Joe Cascio, vice-president of environmental management, GETF. A guest presentation was also provided by Dr. Renat Perelet, Professor of Systems Science at the International Independent University of Ecology and Politology (Moscow).

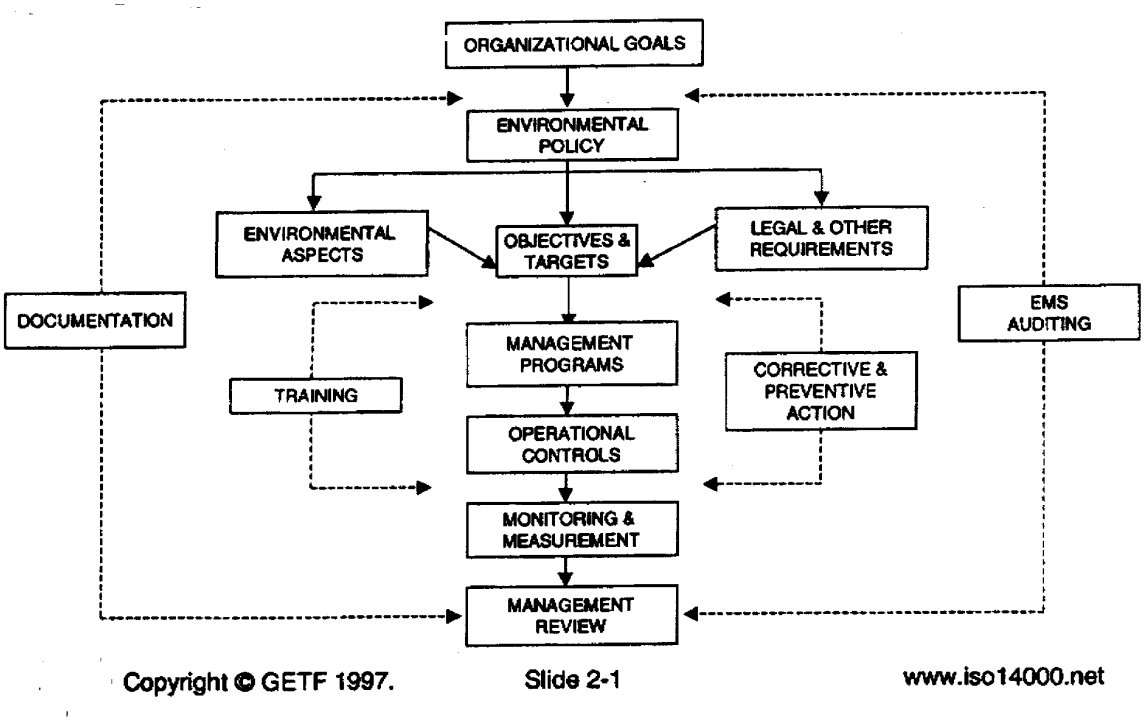
The seminar agenda was designed to provide information about ISO 14000 and to stimulate discussions among participants concerning adoption of ISO 14000–based environmental management systems in Russia. The curriculum design included both faculty presentations and breakout sessions in which participants met in groups to discuss and report on issues, to practice formulating ISO 14000–style environmental management policy statements, to chart milestones for ISO 14000 implementation, and to identify potential roadblocks and solutions that might be found to overcome them. On the final day of the seminar, participants discussed the action that they anticipate would need to be taken to further future implementation efforts. Some of this information was recorded on a five-meter-long “process chart” that was posted on the back wall of the seminar room. (For the complete agenda of the seminar, please see Appendix B.)

Participants received a thorough introduction to the ISO 14000 series of environmental management standards, with particular attention placed on ISO 14001, Environmental Management Systems. An additional focus of the seminar was the wider context for ISO 14000, particularly its relation to the command-and-control regulatory approaches that are practiced by many governments, the nature of the organizational change that adoption of ISO 14001 requires, the experience to-date of companies and countries in implementing ISO 14000, and the known and anticipated benefits of implementing environmental management systems. Throughout the seminar specific attention was focused on the Russian context for implementing ISO 14000 standards.

B. The Program

In a series of presentations, participants learned about each element of the ISO 14001 standard. Additional presentations covered the as-yet unpublished product and life-cycle standards, the system of registration (also known as certification) of companies, the role of national ISO certification authorities, and the role of certified ISO 14000 training providers and audit companies.

The components of the ISO 14001 environmental management system standard are expressed graphically in the following chart, which was frequently referred to during the seminar in its Russian translation. The chart communicates much about the content and the relationship of the various components of the management system that the ISO 14001 standard mandates.



The main point of the seminar presentations on ISO 14001 was to emphasize, and then repeat over and again, that the environmental management system constitutes an approach that a business takes to managing environmental aspects of its business. ISO 14001 does not establish performance standards. The latter are still the responsibility of governments in each country, and ISO 14001 does not supplant or substitute for them. Rather, a company that implements ISO 14001 will begin with corporate goals that are given concrete form in a written environmental policy. This policy at a minimum must include commitments to comply with all applicable environmental laws and regulations, to continuously improve the system of environmental management, and to reduce pollution.

The curriculum design included both faculty presentations and breakout sessions in which participants met in groups to discuss and report on issues, to practice formulating ISO 14001–style environmental management policy statements, to chart milestones for ISO 14000 implementation, and to identify potential roadblocks and solutions that might be found to overcome them. Participants were active throughout the seminar. They listened to lectures, raised questions, and participated in small group discussions. They made presentations to the larger group, transferred information presented to the group to the process flowchart located at the back

of the room, and they engaged each other in dialogues—often quite spirited—about what they were learning and its application to the present-day reality of Russia.

During the week participants worked toward synthesis of individual and group perspectives and concluded the seminar with a candid exchange of views, discussion of next steps, and assessment of the week's work. On the final day of the seminar, participants identified important issues that they anticipate would need to be addressed when considering future implementation efforts.

C. Discussion of Issues

Issues: What can or should be done about Russian Federation environmental laws and regulations that are so strict that nearly 100% of industrial operations are not able to achieve compliance? Should the State Committee on Environment adopt ISO 14000 as a government-mandated requirement? What body should be constituted as the accreditation body? What is the position of industry with respect to implementation of ISO 14000? How can behavioral and cultural issues be addressed? How can the costs of implementing ISO 14000 be met?

1. What can or should be done about Russian Federation environmental laws and regulations that are so strict that nearly 100% of industrial operations are not able to achieve compliance?

An early issue to arise concerned the high level of strictness of Russian Federation environmental laws and regulations. According to industry participants, there is virtually no Russian industrial facility that currently complies with all applicable laws. The laws, which in some cases may be more than ten times more strict than US regulations, were developed to provide low theoretical public health risk thresholds without consideration of technological capability or economic feasibility. This issue concerns the ability of Russian companies to be certified under ISO 14001 if they are unable to meet the requirements of Russian national environmental performance standards. Questions arose since ISO 14001 requires that companies make three commitments: to comply with the national laws and regulations of the countries in which they operate, to make continuous improvement in their environmental performance, and to reduce pollution.

The answer given to the participants was that, yes, it is possible for a company that is not in compliance with the national laws and regulations in which they operate to establish an environmental management system that could be certified as conforming to the ISO 14001 standard. Company policy would still need to include the goal to achieve compliance, but if compliance is not currently possible, its pursuit by the company would be sufficient. The seminar faculty pointed out that from their point of view, maintaining government standards and regulations that cannot be met by industry is poor public policy, because it breeds contempt of legal requirements and does not create an incentive for industry to strive to achieve the additional increments of environmental performance that might be achievable under regulations that took technology and economic feasibility into account. Russian participants from both industry and government agreed with this logic, but also appeared to believe that there was little likelihood

that the government in the near future would advocate a relaxation of standards that seem to have strong public support.

2. Should the State Committee on Environment adopt ISO 14000 as a government-mandated requirement?

On the opening day of the seminar, a participant representing the State Committee on Environment told the group that the State Committee wished to make the ISO 14000 series of standards mandatory in Russia. In mid week the same representative said that the State Committee on Environment has a certification system for products and waste streams. She said that Russia wants to certify products and waste streams according to ISO 14000 standards, and indicated that Russian companies would be able to choose to be regulated under ISO 14000 standards or the current set of regulatory standards.

The foregoing statements provided evidence of some initial confusion concerning the nature of the ISO 14001 series of standards, particularly ISO 140001, environmental management systems. Such confusion is not limited to Russia; in the United States and elsewhere many people initially assume, incorrectly, that the terms “standard” and “environmental management” refer to a set of environmental performance standards rather than to requirements for a management system.

By the end of the week it was clear that representatives of industry opposed the suggestion that the State Committee on Environment should mandate implementation of ISO 14000 standards. During several quite candid exchanges, industry representatives said that they believed that a government implemented certification system would amount to nothing more than a new tax on industry, in much the same way that industry pays for licenses and certifications in other regulatory areas. The State Committee representative, on the other hand, posed the question whether industry would implement ISO 14001 voluntarily if implementation of the standards was not required.

The seminar faculty responded that, while a national government could require companies to implement ISO 14000-based environmental management systems, it was contrary to the development history and spirit of the standards for them to do so. As a practical matter, it would be difficult to achieve an internationally-recognized certification system based on required adoption of environmental management systems, because the certification process depends to a large extent on the ability of a company or facility seeking to be certified to demonstrate its commitment and intent to improve the ways in which it conducts business. It must then substantiate in subsequent audits that its management systems are in place and actually achieving results. A mandatory regime might produce one of two outcomes: either many companies would not qualify for certification, and thus fail the regulatory requirement, or certification standards might be violated in order to enable them to meet the requirement. In the former case one might well question the logic of imposing the requirement. In the latter case, one might predict problems in obtaining or maintaining international recognition for Russia’s certification authority.

3. What entity should be constituted as the official accreditation body?

When the seminar began, the expectation of many participants was that if ISO 14000 standards were implemented in Russia, that they would be implemented through a government authority such as the State Committee on Environment, or perhaps the State Committee on Standards. On the last day of the seminar, faculty presented diagrams showing how registrations to ISO 14000 standards are made in Western countries. Most accreditation boards in OECD countries are non-governmental organizations, though many operate under some form of government sanction or delegation of authority. These national accreditation boards have established an "International Advisory Forum" to assist in working out international compatibility of national ISO 14000 structures, and this organization is not only nongovernmental but it is also independent of the International Organization of Standardization (ISO) itself.

The issue raised during the seminar is whether Russia would follow a pattern similar to other industrialized countries, and create non-governmental structures to administer ISO 14000, or whether it would create governmental structures instead. Based on the comments of the representatives from government organizations, it was clear that those representatives expected that Russia would follow the latter course. However, there is interest on the part of the Chamber of Commerce and Industry, a nongovernmental business and industry organization, to become Russia's official accreditation body. If this were to occur, Russia would gain an administrative structure for ISO 14000 that, organizationally at least, resembled that of its major trading partners. The choice of governmental or nongovernmental with respect to accreditation authorities is in one sense irrelevant in and of itself. What really matters is the credibility and seriousness of the organization, and its ability ultimately to reach and maintain mutual recognition agreements with other international accreditation authorities.

4. What is the position of Russian industry with respect to implementation of ISO 14001?

The representatives of Russian industry present at the seminar spoke most frequently during informal exchanges that arose in response to comments from the representative of the State Committee on Environment. Examples include industry's opposition to a mandatory requirement for adopting ISO 14001, the belief that if the State Committee on Environment mandates that industry adopt the ISO standard, that the resulting system will more than anything else function as a new source for government revenue. One industry representative was more blunt. He said that industry is afraid of government regulators, and that the documentation requirements in ISO 14001 raise the specter of bribery. Existing examples of regulatory requirements administered in an arbitrary way include environmental passports, technology licenses, required approvals for emergency response statements, and health ministry certificates. ISO 14001 could be similar if implemented by government.

One industry representative said that there is inefficiency in Russian company operations, and that management needs to take a more active role in eliminating it. He added that he favored the voluntary approach. Another said that the economic benefits of ISO 14001 implementation are not yet clear, and that it was important to know what approach to implementation would be taken in Russia before expressing a judgment on its desirability. Another industry representative said

that industry would feel more comfortable dealing with foreign registrars rather than Russian government ones. Another acknowledged that the environmental shortcomings of Russian industry are hurting companies in their search for foreign investment.

5. How can behavioral and cultural issues be addressed?

The ISO 14000 seminar addressed cultural change in three ways. In the first instance, by pointing out that companies—even western ones—that adopted ISO 14001 expended the greatest effort and cost in training employees and in managing change. In the second instance, a specific segment of the curriculum addressed change management, with particular reference to economies in transition, using references to Poland as the point of departure. Finally, the seminar itself was designed to be participatory, and seminar faculty stated that they were intentionally modeling through the seminar itself some of the participatory techniques that companies should adopt when implementing ISO 14001.

Throughout the seminar participants engaged each other in animated discussions, worked diligently in breakout sessions, and asked probing questions of the seminar faculty. This result may be attributed to three factors: the approach, techniques, and skill of the seminar faculty; the fact that most of the participants had previous experience in USAID-sponsored American-style training experiences; and the fact that the seminar, though conducted in Russia, was conducted by non-Russian faculty.

The literature on change management in economies in transition does not provide a great basis for optimism with regard to the prospects for rapid and deep cultural and behavioral change. There is surely much change occurring in Russia, at least on the surface, but there is also evidence that patterns of behavior that are deeply rooted in Russian history continue to exercise considerable influence. In his concluding presentation on the final day of the seminar, Vladislav Balashov drew attention to a diagram drawn by Joe Cascio that showed a nongovernmental structure comprised of an accreditation board, registration audit firms, and registration audit firm certifiers. Compare this structure, he said, to the simple reporting and accountability relationships that exist in Russia. They can be represented by two boxes. The top box represents an organ of government, the bottom one an entity such as a firm or an individual. In Russia the only relationships that matter are the hierarchical ones that join these two boxes. And, he said, this has been true not only for the last eighty years, but since as long ago as Ivan the Terrible.

If behavioral and cultural change in Russia will not be rapid, but will occur in gradual increments, there may still be some basis for optimism. One of the participants in the seminar represents the Russian Federation Chamber of Commerce and Industry, a nongovernmental organization that aspires to become Russia’s accreditation board. The international community can assist Russia in changing the organizational patterns that influence behavior by supporting the development in Russia of ISO 14000 structures that resemble as closely as possible the corresponding structures in the West.

6. How can the costs of implementing ISO 14000 be met?

The question of the cost of implementing ISO 14001 arose at several points during the seminar. Participants identified costs associated with the certification process, with the purchase of new technology that would enable a company either to comply with environmental performance standards or make progress toward complying with them, and with the training of employees. Faculty presented data from some companies in Western Europe that had implemented ISO 14001 that broke out costs paid for outside consultants, for external auditors and registration expenses, and for employee training.

Industry representatives appeared to see the costs as reported by western firms as indicative of the magnitude of expense that they would incur in implementing ISO 14001. Faculty responded that there are very few "hard" costs associated with ISO 14001 implementation, and that the majority of reported costs from western firms are really of an accounting nature. They are calculated by adding up the number of hours that employees report spending on learning about and implementing ISO 14001. This accounting methodology assumes that employees' time, when so spent, should be deducted from "productive" time as a cost. This presumes that employees do not find ways to also accomplish the work that they are normally expected to do. Second, the concern about employee's labor costs does not recognize the potential for realization of annual cost savings that companies that implement ISO 14001 should accrue. Such savings have been demonstrated time and again by western companies, and also by companies from countries in transition such as Poland, Slovakia, Ukraine, and elsewhere.[3] Such savings, once realized, are permanent, and are a source of financial dividends that companies can tap for years to come.

There is as yet no reported experience of a firm or facility in an economy in transition earning certification under ISO 14001. The first companies that do so will likely be export-oriented firms that employ western consultants to help design their policies and implementation strategies. They will likely earn their certifications from third-country audit registration firms that are themselves certified by a certifying firm that has been accredited by an accreditation board in North America or Western Europe.

As for technology, there is no requirement under ISO 14001 that any particular technologies be utilized. Companies may fully implement ISO 14001 without making technological or process upgrades. In implementing ISO 14001, however, many companies will find relatively low-cost improvements that they can employ immediately. These will result in cost savings that the company can use to potentially offset its "hard" costs of implementing ISO 14001.

Finally, with respect to employee training, the employee time "costs" to Russian firms will be much lower on a person-month basis because salaries of individual workers are only a fraction of the salaries of workers in developed industrialized countries.

[3] The USAID-supported World Environment Center has documented results from implementation of their "eco-efficiency methodologies.

Viewed from a global market perspective, it is difficult to see how Russian industry can, in the long run, become globally competitive without investing in both human resource development and in technology. ISO 14001 belongs squarely in the former category, though its adoption suggests that a company with confidence in its long-term future will also invest in technology as well.

3.
Recommendations

Implementation of ISO 14000–based environmental management systems will provide substantial benefits to Russian industry. The principal benefit is that firms that implement ISO 14001 will discover ways to increase the efficiency of their operations. This will occur when senior management communicates a commitment to achieve environmental objectives to the entire workforce, provides employees with training, encourages reexamination of policies and procedures, stimulates innovation and encourages employees to take a leading stewardship role in managing the company's environmental aspects, and develops incentives and rewards for meeting the company's environmental policy.

A second benefit, which is likely to become increasingly important within the space of just a few years, is competitive advantage in the global marketplace. Already the government of Taiwan has mandated that its suppliers be ISO 14001 certified, and we believe that this is just the beginning of a trend that will manifest itself first in one industrial sector, then in another, and eventually in most or in all. Current sectors that appear already to moving in this direction include electronics, pharmaceuticals and chemicals, and automobiles.

Because ISO 14001 is about management systems, the cost of voluntary adoption will be low. The principal ingredient needed is motivation on the part of management to make environmental management a priority. The initial investment that is required will be a relatively modest sum for training and training materials. Survey information from companies in western Europe and known data from companies in North America suggest that the largest resource demand for companies implementing ISO 14001 will be for investment in human resource development.

The US Agency for International Development is well placed to provide some of the training that Russian enterprises (and other enterprises in the New Independent States) need. USAID has an established track record in this area, and has been asked by the government of President Boris Yeltsin to help implement a substantial managerial training program that he announced in July 1997. To meet this demand, and to build upon its previous investments in human resource development in the areas of environmental policy, we recommend that USAID provide significant new opportunities for Russian industry to learn about ISO 14000 and to implement environmental management systems. Specifically, we recommend that USAID provide funding for:

- "train the trainers" seminars that would provide training by US instructors ***who have completed an accredited ISO 14000 training course*** to Russians, especially to representatives from industry, government, and educational institutions;

- in-country training to enterprises in Russian regions, conducted in conjunction with economic development initiatives to reinforce the message that investment in environmental management systems returns economic benefits and can be justified as a sound business decision;

- study tours in the United States that will familiarize key Russian government officials and other interested parties with the structure of the ISO-approved but nongovernmental national certification authority in the United States, and with other key infrastructure elements associated with implementation of the environmental management system standard, such as audit companies, training course providers, consultant firms, publishers of information materials, etc., and that will acquaint participants with the policy implications for national and regional regulatory authorities of ISO 14001;

- study tours in the United States to well-managed US companies that have implemented ISO 14001 or “ISO 14001–like” environmental management systems;

- publication and distribution in Russia of Russian-language materials on ISO 14001.

Appendix A: Participants

Akimova, Nina Petrovna, Head of Experimental Laboratory, State Scientific Center "Gintsvetmet" (Note: has had ISO 14000 training this year in Sweden.)

Arkhipov, Nikolai Alexandrovitch, Deputy Technical Manager for Ecology, Joint Stock "Severstal" plant (Ferrous Metallurgical plant)

Borissenko, Victor Dmitrievitch, Head of Environment Preservation Department, State Space Scientific Industrial Center named after Khrunitchev

Gleikine, Vasili Nikolaevitch, Senior specialist on the environment protection, Chemical factory

Karimova, Rovza Merverdinovna, Deputy General Director, Association "Volgogradecotechzerno"

Khotouleva, Marina Vladilenovna, Director, Ecology. Analysis. Information. ECOLINE Consulting, Moscow

Limonova, Irina Vassilievna, Head of ecological certification, audit and insurance department, State Committee for environmental protection

Liudukhovskaia, Sofia Mikhailovna, Master of Cleaning Equipment, Moscow Factory of Technical Paper, Experimentary Firm "Soyuz"

Nikonov, Grigori Grigorievitch, Deputy Head, State Brewery

Petrov, Alexandre Petrovitch, Senior Specialist of the Department of Environment Protection, Oil company "UCOS"

Piskoulov, Iouri Vassilievitch, Head of Chair of International and Foreign Trade, Russian Academy of Foreign Trade

Rebik, Valentina Tikhonovna, Head of Department of environment protection, Krasnoyarsk aluminum factory

Rozov, Serguei Ivanovich, Deputy Head, Tcherepovets knitted wear corporation

Samsutdinov, Irek Nurievich, Deputy senior engineer, JSC "UmNPZ", Ufa oil-processing plant

Savina, Irina Mikhailovna, Senior Technologist, JSC "Moscow Glass Factory"

Shakhkalamian, Grigori Stepanovitch, Head of the Department, Institute of the Economic Problems of the Use of Natural Resources

Shcheglova, Marina Vladimirovna, Senior Specialist, Russian Federation State Committee on Environmental Protection

Shokina, Lidia Ivanovna, Deputy Chairman of Committee, member of Council of Commission on Stable Development, Chamber of Commerce of Russian Federation. Committee on Ecology and Environmental Protection

Shouldiner, Evgueni Semenovitch, Senior Research Fellow, Institute of Nature Use Economical Problems

Svidunovitch, Tatiana Vladimirovna, Senior specialist, Oil company "UKOS"

Tchernaia Valentina Tikhonovna, Head of the Group of Quality Control of Analytic Jobs and Measurement, Joint-Stock Company "Severstal" Department of Rational Use of Natural Resources

Uvarov, Serguei Pavlovich, Head of Department, Akron Company (Novgorod)

Zimina, Elena Nikolaevna, Head of Department of Ecological Standardization, State Committee of Environment Protection of Volgograd

Appendix B: Faculty Profiles

John Shideler, Futurepast

John Shideler is President of Futurepast: Inc., an Arlington, VA–based social science consulting firm specializing in environmental policy, business and change management, public participation, and education and training. He has consulted to federal agencies, state governments, and private industry, and has a broad background in environmental, energy, and natural resource issues and in domestic and international public policy. Clients include US federal and state government agencies, and domestic and international businesses and institutions.

Mr. Shideler has conducted environmental management training since 1994 and since 1996 has provided training and consulting on ISO 14001–based Environmental Management Systems. He has completed ISO 14000 Lead Auditor coursework and has applied for RAB certification as an EMS auditor.

His consulting practice in environmental management systems is both domestic and international, with a current international emphasis on Russia. Mr. Shideler serves on the scientific council of the Training and Consulting Centre Practic (Moscow) and currently serves the V.I. Vernadsky Foundation (Moscow) as honorary US member of the organizing committee for World Environment Day 1998, hosted by Russia.

Mr. Shideler has consulted to the US Department of Energy, Office of Environment, Safety and Health and Office of Waste Management on public participation policy and radiation effects research. In 1995 he helped plan and participated in a bilateral radiation health effects workshop in St. Petersburg for the DOE. In 1996 he provided training support to Ukrainian officials under the 1995 G-7 Memorandum of Understanding on the closure of the operating reactors at Chornobyl.

Mr. Shideler previously served as a consultant to the Office of Surface Mining on its Abandoned Mine Lands program, to the State of Washington on transportation and nuclear waste programs, and to private industry on regulatory and permitting issues. His publications include:

- "Implementing ISO 14001 around the world," with Joe Cascio, forthcoming in *ChemTech* (Washington, DC: American Chemical Society, May 1998);

- "The Legacy of Early Ideas of Conservation—Tracing the Evolution of a Movement," with R. L. Hendricks, in *Journal of Forestry* v. 89:10 (Oct. 1991), pp. 21-23;

- *Stormwater Permit Manual* (Washington, DC: Thompson Publishing Group, 1991).

Mr. Shideler earned his PhD degree at the University of California, Berkeley, and MA and BA degrees at the University of Washington. He has taught history at the University of California, Berkeley, and at Gonzaga University in Spokane, WA. He is a fluent speaker of French.

Joe Cascio, Global Environment and Technology Foundation

Joe Cascio is the Chairman of the US Technical Advisory Group for ISO Technical Committee 207 (environmental management standards). He is a key resource of GETF's Environmental Management Program and its governmental and private sector clients in North and South America, Europe, and Asia.

Mr. Cascio has been the lead US delegate to the International Organization for Standardization (ISO) on the ISO 14000 environmental management standards since 1991. He previously served as the Chairman of the US Technical Advisory Group for the Strategic Advisory Group on the Environment (SAGE), the precursor of ISO Technical Committee 207 (TC 207). When SAGE was superseded by TC 207, Mr. Cascio was again elected Chairman of the new US Technical Advisory Group to TC 207, the position he holds today.

Mr. Cascio is recognized in the US and throughout the world as an expert on environmental management and as the key architect and strategist in formulating the US posture on ISO 14000.

Mr. Cascio co-authored the "ISO 14000 Guide" published by McGraw-Hill and edited "The ISO 14000 Handbook," published by CEEM Information Services. He has authored over two-dozen articles and papers on environmental management, delivered over 300 speeches and presentations, and testified before congressional sub-committees on this subject. Forthcoming publications include "Implementing ISO 14001 around the world," an article he co-authored with John Shideler for the May 1998 issue of *ChemTech*.

Before joining GETF, Mr. Cascio was employed by the IBM Corporation for twenty six years, the last fourteen devoted to environmental management and policy development. From 1984 to 1991, he was IBM's representative and lead on public policy issues in the environmental field.

During that time he was very active in various industry associations including the Business Roundtable, the American Electronics Association, the Electronics Industry Association, the US Council for International Business, and the Global Environmental Management Initiative. Mr. Cascio was the principal author of the ICC Charter for Sustainable Development.

Mr. Cascio has earned the following academic degrees: BS, Engineering, 1966, Polytechnic University of New York; MS, Management, 1971, University of Southern California; Juris Doctor, Law, 1976, Fordham Law School.

Vladislav Balashov, Practic

Vladislav Balashov is Executive Director of the Training and Consulting Centre Practic (formerly the Centre for Cross Border Educational Programmes "Practic"). Previously Mr. Balashov served as research director of the Economist Intelligence Unit's (EIU) Moscow joint venture with the Institute of World Economy and International Relations. His responsibilities included managing and participating in customized research projects designed to assist multinational companies in the former Soviet Union; contributing to EIU's publications in the CIS; and participating in the organization of EIU's Moscow-based seminars.

Mr. Balashov's consulting and research work has focused on the following sectors: ferrous metallurgy, automotive, chemical, furniture, food, and machine-building. Before joining the EIU Mr. Balashov worked as business and commercial correspondent at the Moscow-based Novosti Press Agency in its western European section, and also as Novosti's special correspondent to Lithuania. While at the agency he undertook a series of research projects and wrote stories for western publications on the effect of economic reforms and the inter-ethnic situation in the USSR.

Mr. Balashov completed a ten-month post-graduate study program at the University of Birmingham's (UK) Centre for Russian and East European Studies. He was also granted a NATO fellowship for 1991-92 to conduct a study of market reforms in the former Soviet republics. Mr. Balashov was educated at the Moscow State Institute of International Relations under the USSR Ministry of Foreign Affairs, specializing in business journalism and East-West trade issues. He is a fluent speaker of Russian and English.

Appendix C: Seminar Schedule

Monday, 27 October 1997

11:00-12:30	Arrival and registration
12:30-13:45	Lunch
14:00-14:30	Welcome and Overview of the Seminar John Shideler, Futurepast Joseph Cascio, Global Environment & Technology Foundation Vladislav Balashov, Practic
14:30-15:45	Introduction of participants
15:45-16:00	Break
16:00-16:30	Why EMS? (John Shideler)
16:30-17:30	Introduction to Environmental Management Systems (Joe Cascio)
17:30-18:00	Discussion of elements that are similar and dissimilar in western and Russian management approaches (all)

Tuesday, 28 October 1997

9:00-9:30	Description of an EMS (Joe Cascio)
9:30-10:00	Environmental aspects management (Joe Cascio)
10:00-11:30	Breakout sessions: Selecting significant environmental aspects
11:30-12:30	The command and control response to environmental issues in the US—a historical perspective (John Shideler)
12:30-13:45	Lunch
14:00-15:00	Development of an environmental policy (Joe Cascio)
15:00-15:45	Discussion of what the “real” environmental policies are of industries as measured by performance, market incentives, and government policy (all)
16:00-16:30	Importance of management commitment to the EMS (Joe Cascio)
16:30-16:45	Break
16:45-18:00	Breakout sessions: Writing policy statements.
18:00-18:30	Discussion and feedback

Wednesday, 29 October 1997

9:00-10:00	Case study of the electronics industry (Joe Cascio)
10:00-10:45	Change management, or how to implement a new policy (John Shideler)
10:45:11:00	Break
11:00-11:45	Industry advantages in adopting a voluntary ISO 14000-based EMS (Joe Cascio)
11:45:12:30	Government responses in the US to development of ISO 14000 based EMS (Joe Cascio)
12:30-13:45	Lunch
14:00-14:45	ISO 14000 and world institutions (guest speaker, Renat Perelet)
14:45-15:30	Public policy options: How will ISO 14000 affect future policy choices? (John Shideler)
15:30-15:45	Break

15:45-17:00	Break out sessions: the impact that voluntary adoption of an EMS would have on industry/government relations in Russia (groups comprised of individuals representing different economic sectors or regions)
17:00-18:00	Public involvement (John Shideler and Joe Cascio)
18:00-18:30	Group discussion and feedback

Thursday, 30 October 1997

9:00-10:30	Other elements of ISO 14001 (Joe Cascio)
10:30-10:45	Break
10:45:12:00	Global overview of countries, sectors, companies (Joe Cascio)
12:00-12:30	Discussion
12:30-13:45	Lunch
14:00-15:00	Creating new business opportunities from environmental opportunity: Mercury Refining Company and the Romelt steel production process (John Shideler)
16:00-16:45	ISO 14000 Product Standards (Joe Cascio)
16:45-17:00	Break
17:00-18:00	The IBM experience (Joe Cascio)
18:00-18:30	Group discussion and feedback

Friday, 31 October 1997

9:00-9:30	Discussion of week's program to date, identification of topics of special interest for further elaboration (all)
9:30-10:30	Conformity assessment: accreditation and certification (Joe Cascio)
10:30-10:45	Break
10:45-11:30	What to expect when working with certifiers and consultants (Joe Cascio)
11:30-12:00	The role of trade associations (John Shideler)
12:00-12:30	Resources available in Russia (Vladislav Balashov, John Shideler)
12:30-13:45	Lunch
14:00-15:30	Breakout sessions: an agenda for change—concrete steps that need to be taken by individual enterprises and/or by associations
15:30-15:45	Break
15:45-16:30	Lessons given and lessons learned: reflections on the path forward for ISO 14000 adoption in Russia (Joe Cascio)
16:30-17:00	Conclusions, summary, and next steps (John Shideler, all)

Appendix D: Photograph Captions

Seminar Photographs (following page)

Top left: Nina Akimova from the State Scientific Center "Gintsvetmet" writes suggested milestones for ISO 14001 implementation on the seminar's process flowchart.

Top right: Ivan Rebrik from the Krasnoyarsk Aluminum Plant exchanges views with Aleksei Dibrov from the VNII Nature/International Center for Training.

Center: View of the seminar participants with the process flowchart on the back wall.

Bottom left: View of a breakout session group at work.

Bottom right: Joe Cascio makes some points with the aid of Russian-language overhead projector slides.